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First direct determination of the superallowed β-decay Q_{EC}-value for ^{14}O KERIM GULYUZ, MARTIN EIBACH, RYAN RINGLE, STEFAN SCHWARZ, CHANDANA S. SUMITHRARACHCHI, National Superconducting Cyclotron Laboratory, GEORG BOLLEN, Facility for Rare Isotope Beams / Michigan State University, KORTNEY COOPER, CHRISTOPHER IZZO, DAVID J. MORRISSEY, RACHEL SANDLER, ADRIAN A. VALVERDE, National Superconducting Cyclotron Laboratory / Michigan State University, RICHARD R. BRYCE, Central Michigan University, MATTHEW REDSHAW, National Superconducting Cyclotron Laboratory / Central Michigan University, MAXIME BRODEUR, Notre Dame University, ANTONIO C.C. VILLARI, Facility for Rare Isotope Beams — Superallowed $0^+ \rightarrow 0^+$ nuclear β transitions provide a sensitive test of the conserved vector current (CVC) hypothesis. While the CVC hypothesis calls for a constant corrected *Ft*-value for all superallowed $0^+ \rightarrow 0^+ \beta$-decays, if there is a scalar interaction, an additional term approximately inversely proportional to Q_{EC} would be present in *Ft*. Hence the sensitivity to the presence of a scalar current would be larger for smaller Q_{EC}; i.e. for low-Z nuclei. Of the 14 *Ft*-values that are used to calculate the world average, only the Q_{EC} for ^{14}O has not been measured in a Penning trap, despite multiple attempts at other facilities. We have performed the first direct measurement of the ground state β-decay Q_{EC}-value at the LEBIT facility. An order of magnitude improvement in precision makes it the most precisely known Q_{EC}-value for determining *Ft* used in testing the CVC hypothesis.

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